

## -DIY Magnetic Compass-

### Materials Needed:

- Magnet (the stronger the better)
- Sewing needle
- Cork
- Pliers
- Medium bowl
- Water
- Scissors
- Compass

### Instructions:

1. First, you are going to magnetize one half of the needle by taking your magnet and running one side of the magnet (the same side repeatedly) back and forth over the same half of the needle. For a good magnet you will need to do this no less than 50 times, so the weaker the magnet to more you need to brush it across this half of the needle.
2. Flip the magnet over to the other side and flip the needle to the other half. Now repeat step one with the opposite side of the needle and the opposite side of the magnet. This gives you your north and south pole magnetic fields.
3. Cut your cork so that it is 1-2 cm thick with scissors.
4. Fill your bowl with water.
5. Have an adult push the needle through the cork so that the cork and needle will lay flat on the water.
6. Place your needle in the water and compare your results to a compass. Which side of your needle is north and which side is south?

